

PROCESS AND APPARATUS FOR DEPOSITING A CERAMIC COATING

Abstract

A process and apparatus for depositing a ceramic coating, such as a thermal barrier coating (TBC) for a gas turbine engine component. The process deposits a coating whose composition includes multiple oxide compounds and a carbon-based constituent, e.g., elemental carbon, carbides, and carbon-based gases. The process uses at least one evaporation source to provide multiple different oxide compounds and at least one carbide compound comprising carbon and an element. The evaporation source is evaporated to produce a vapor cloud that contacts and condenses on the component surface to form the ceramic coating, and particularly so that the coating comprises the oxide compounds, an oxide of the element of the carbide compound, and the carbide compound and/or a carbon-containing gas. The process is carried out with an apparatus comprising a coating chamber in which the evaporation source is present, and a device for evaporating the evaporation source.